

In case of a form-genus like *Weichselia*, as has been abundantly shown in other Mesozoic form genera—*Cladophlebis* for example, one cannot generalize from one instance, and my own feeling is that the botanical affinity of *Weichselia* is by no means settled.

BOTANY.—*Notes on Central American Rubiaceae.* PAUL C. STANDLEY, U. S. National Museum.¹

A few months ago the National Museum was fortunate in receiving for study from the Botanical Museum of Copenhagen a large number of specimens of plants of the family Rubiaceae, collected in Central America by some of the earliest botanical collectors who visited that region. Of greatest interest were the classic specimens obtained by Oersted, the first botanist who explored Costa Rica and Nicaragua.

Oersted was especially interested in the Rubiaceae, upon which he published an important paper, describing numerous new species, some of which have remained obscure, chiefly because they have not been recollected. Included in the recent sending were most of Oersted's types, particularly in the difficult genus *Psychotria*. In some instances the National Museum was permitted to retain duplicate type material for future reference. In other cases our material has been compared carefully with the types, and the sheets annotated accordingly.

The National Museum has received also on loan a number of type specimens of Central American species of *Psychotria* from the Berlin Botanic Garden. These have made it possible to determine the status of several species not represented previously in the National Herbarium.

The accompanying notes enumerate some of the results of the study of these important collections, for whose loan the writer is deeply indebted to Dr. Carl Christensen and Dr. L. Diels. The reference material now available in the National Herbarium will facilitate materially future study in the United States of tropical American Rubiaceae, above all in the intricate group called *Psychotria*.

PENTODON PENTANDER (Schum. & Thonn.) Vatke, Oesterr. Bot. Zeitschr. 25: 231. 1875.

An African plant, known to be established as a weed in Guadeloupe. Specimens are at hand also from Central America:

NICARAGUA: Granada, August, 1869, Lévy 208.

¹ Published by the permission of the Acting Secretary of the Smithsonian Institution. Received November 26, 1927.

RONDELETIA COSTARICENSIS Standl. N. Amer. Fl. 32: 61. 1918.

Here belongs *Wendland* 792, from San Miguel, Costa Rica, collected in May, 1857, the specimen in the Copenhagen Herbarium. Oersted recognized the plant as new, and wrote upon the sheet a specific name, never published, alluding to the large stipules.

DEPPEA COSTARICENSIS Polak. Linnaea 41: 566. 1877.

In the North American Flora (32: 90. 1921) this species is reduced to synonymy under *D. grandiflora* Schlecht., and perhaps properly so. The latter is the only Costa Rican species represented in the National Herbarium by recent specimens, but none of these match exactly Polakowsky's type in the Berlin Herbarium. The capsules of *D. costaricensis* are shorter than in typical *D. grandiflora*, and rounded at the base. It is probable that *D. costaricensis* is a distinct species, but further collections are necessary to establish the fact.

BOUVARDIA PALLIDA Standl. Journ. Washington Acad. Sci. 14: 245. 1924.

Described from the Volcano of San Salvador, Salvador. The species may now be reported from another Central American country:

GUATEMALA: Las Nubes, Jan. 11, 1857, *Wendland* 208.

HOFFMANNIA GESNERIOIDES (Oerst.) Kuntze, Rev. Gen. Pl. 1: 285. 1891.

Ophryococcus gesnerioides Oerst. Nat. For. Kjöbenhavn Viv. Medd. 1852: 53. 1853.

The National Museum has received in exchange from Copenhagen a specimen of the type collection (the only one known) of *Ophryococcus gesnerioides*, collected by Oersted in January, 1848, on Mount Pantasma, Segovia, Nicaragua, at 1,200 meters. Examination of this material proves that Otto Kuntze was correct in referring the plant to *Hoffmannia*. It is a well-marked species, not approached closely by any other Central American representative of the genus. The region in which it grows is little known botanically, and it is not surprising that it has not been found by other collectors. Most species of *Hoffmannia* are narrowly restricted in their distribution.

HOFFMANNIA LONGIPETIOLATA Polak. Linnaea 41: 567. 1877.

The type, in the Berlin Herbarium, was collected on Cerro de la Carpintera, Costa Rica, *Polakowsky* 134. Although I have paid special attention to the collection of this genus, and have visited the Carpintera twice, I did not find this species there. The type is well matched, however, by the following collections:

COSTA RICA: Viento Fresco, Prov. Alajuela, alt. 1,600-1,900 m., *Standley & Torres* 47766, 47784.

XEROCOCCUS CONGESTUS Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 52. 1853.

The type specimen, in the Copenhagen Herbarium, was collected at Turrialba, Costa Rica, at an altitude of 900 meters, by Oersted. The genus is a quite distinct one, related, evidently, to *Hoffmannia*, and consisting of a single species.

The plant seems to have been overlooked by later collectors in Costa Rica, and no additional material of it was obtained, apparently, until 1924, when I collected a good series of specimens. Further material was gathered in 1925-26, and there are now in the National Herbarium over 20 sheets representing the species. Why the plant should have escaped other collectors it is hard to understand, for it is abundant in the wet mountain forests at middle elevations and it is, moreover, a large showy plant, with dense, bright red inflorescences. The small juicy fruits are white when ripe.

IXORA FLORIBUNDA (A. Rich.) Griseb. Cat. Fl. Cub. 134. 1866.

Although reported from Sapoá, Nicaragua, by Hemsley, this species has not been represented in the National Herbarium by Central American specimens. It may now be reported from Salvador: Between San Miguel and Jococho, Feb. 2, 1857, *Wendland* 437.

PSYCHOTRIA CHIAPENSIS Standl. Contr. U. S. Nat. Herb. **23**: 1390. 1926.

Cephaelis tetragona Donn. Smith, Bot. Gaz. **61**: 376. 1916. Not *P. tetragona* Seem. 1865-67.

Psychotria chiapensis was based on a single collection, *Purpus* 6963, from Chiapas. The type of *Cephaelis tetragona* was collected at Tuis, Costa Rica, *Tonduz* 11352. I had not seen the type of the latter when *P. chiapensis* was published. The differences between *Psychotria* and *Cephaelis* are altogether artificial, and *Cephaelis* can be maintained only as a matter of convenience. It is difficult to determine where a line shall be drawn in referring plants to the two groups, but it seems preferable to refer this plant to *Psychotria*.

A large number of additional specimens of *P. chiapensis* have appeared in recent collections, and these are listed below. The plant is so widely dispersed that it will be strange if an older name is not discovered for it, but so far I have been unable to find one.

MEXICO: Misantla, Veracruz, *Purpus* 5982. Jovo, *Liebmann* 11771 (Rubiaceae no. 113). Without locality, *Liebmann* 11775, 11770 (Rubiaceae no. 111), 11769 (Rubiaceae no. 93). Matlaluca, *Liebmann* 11768 (Rubiaceae no. 16). Lacoba, *Liebmann* 11773 (C; Rubiaceae no. 92). Tlapacoyo, *Liebmann* 11772 (C; Rubiaceae no. 112).

GUATEMALA: Puerto Nuevo, *Tonduz* 586. Chamá, *Johnson* 248. Finca San Luis, Depart. Retalhuleu, *Rojas* 589. Quiriguá, *Standley* 24691. Escoba *Standley* 24847.

BRITISH HONDURAS: Stann Creek, October, 1925, *N. Stevenson*. Middlesex, *Record* 11.

COSTA RICA: Las Vueltas, Tucurrique, *Inst. Fis. Geogr. C. R.* 12997. Valley of Río Tuis, *Pittier* 8212. Livingston, *Rowlee & Stork* 737.

PANAMA: Lincoln Creek, *Carleton* 86. Western Panama, *Stork* 17. Bocas del Toro, *Carleton* 274.

Known in British Honduras as "casada;" in Guatemala as "palo de agua."

PSYCHOTRIA ELONGATA Oerst. Nat. For. Kjöbenhavn Vid. Medd. **1852**: 32. 1853.

This species, collected on the Volcano of Mombacho, Nicaragua (the locality given on the label is "ad Granada"), appears to be a valid one. It is not matched by any Central American *Psychotria* in the National Herbarium.

PSYCHOTRIA GLOMERATA H. B. K. Nov. Gen. & Sp. **3**: 362. 1818.

Psychotria microdesmia Oerst. Nat. For. Kjöbenhavn Vid. Medd. **1852**: 36. 1853.

The type of *P. microdesmia*, from Jarís, Costa Rica, is evidently identical with *P. glomerata* H. B. K., a conclusion confirmed by Urban. This species, strangely enough, is not represented in recent Costa Rican collections.

PSYCHOTRIA GRACILIFLORA Benth.; Oerst. Nat. For. Kjöbenhavn Vid. Medd. **1852**: 35. 1853.

The type was collected at Naranjo, Costa Rica, by Oersted. It is well matched by the following collections:

COSTA RICA: La Palma, *Standley* 38035, 38200, 33127. La Colombiana Farm, *Standley* 36759. La Ventolera, *Standley* 34715. Cerro de la Car-

pintera, *Standley* 35521. Suerre, *J. D. Smith* 6602. Cañas Gordas, *Pittier* 11090. Fraijanes, *Standley & Torres* 47573, 47459, 47600. Guápiles, *Standley* 37279, 37051, 37038, 37149. La Hondura, *Standley* 37831. La Tejona, *Standley & Valerio* 45852. Viento Fresco, *Standley & Torres* 47856.

PANAMA: Between France Field and Catival, *Standley* 30178. Fort Sherman, *Standley* 31070.

PSYCHOTRIA GRANDIS Swartz, Prodr. Veg. Ind. Occ. 43. 1788.

Psychotria subsessilis Benth.; Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 32. 1853.

The type of *P. subsessilis* was collected at Turrialba, Costa Rica. The name should be referred to synonymy under *P. grandis*.

PSYCHOTRIA HORIZONTALIS Swartz, Prodr. Veg. Ind. Occ. 44. 1788.

Psychotria longicollis Benth.; Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 33. 1853.

P. longicollis is represented in the Copenhagen Herbarium by several specimens of Oersted's collection from Costa Rica and Nicaragua. The name evidently should be referred to synonymy under the widely distributed *P. horizontalis* Swartz.

PSYCHOTRIA LIMONENSIS Krause, Bot. Jahrb. Engler 54: Beibl. 119: 43. 1916.

Psychotria limonensis var. *laxinervia* Loes. Repert. Sp. Nov. Fedde 18: 361. 1922.

The types, in the Berlin Herbarium, of both the species and the variety have been examined. The variety, from Palenque, Chiapas, differs in no important character from the type of the species, which was collected on Uvita Island, Limón, Costa Rica, *Pittier* 12681. The following specimens in the National Herbarium represent the same species:

GUATEMALA: Escoba, *Standley* 24857, 24822. Puerto Barrios, *Standley* 25084. Torolá, *J. D. Smith* 2042. Escuintla, *J. D. Smith* 2754. Cubilquitz, *Tuerckheim* 8404.

COSTA RICA: Limón, *Cook & Doyle* 440.

PANAMA: Fort Lorenzo, *Piper* 5986. Barro Colorado Island, *Standley* 31313, 40827, 41043.

PSYCHOTRIA MAGNA Standl. Contr. U. S. Nat. Herb. 18: 131. Feb. 11, 1916.

Psychotria compressicaulis Krause, Bot. Jahrb. Engler 54: Beibl. 119: 44. Oct. 4, 1916.

The type of *P. compressicaulis*, in the Berlin Herbarium, *Pittier* 12412, agrees in every respect with that of *P. magna*, from Loma de la Gloria, Panama, *Pittier* 4092.

PSYCHOTRIA MARGINATA Swartz, Prodr. Veg. Ind. Occ. 43. 1788.

Psychotria nicaraguensis Benth.; Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 34. 1853.

P. nicaraguensis is clearly a synonym of *P. marginata*, a fact which has already been published, I believe, by Urban.

PSYCHOTRIA PARVIFOLIA Benth.; Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 35. 1853.

The type material was collected by Oersted on the Volcano of Barba and at Naranjo, Costa Rica. This species resembles closely *P. graciliflora* in general appearance. In *P. graciliflora* the branches are glabrous and the inflorescence pedunculate; in *P. parvifolia* the branchlets are puberulent and

the inflorescence sessile. The following specimens are referable to *P. parvifolia*:

COSTA RICA: Cerro de la Carpintera, *Standley* 35578. La Ventolera, *Standley* 34676. Cerros de Zurquí, *Standley & Valerio* 50396, 50271. Yerba Buena, *Standley & Valerio* 49194. Santa María de Dota, *Standley & Valerio* 44076; *Standley* 42857. Cerro de las Caricias, *Standley & Valerio* 52044, 51953, 52223. Fraijanes, *Standley & Torres* 47571, 47566.

PANAMA: El Boquete, *Maxon* 4958.

PSYCHOTRIA PUBESCENS Swartz, Prodr. Veg. Ind. Occ. 44. 1788.

Psychotria glauca Polak. *Linnaea* 41: 569. 1877.

Examination of the type of *P. glauca*, from San José, Costa Rica, *Polakowsky* 377, shows that it is a synonym of the widespread *P. pubescens*. This identification is confirmed by a note by Urban attached to the type sheet in the Berlin Herbarium.

PSYCHOTRIA QUINQUERADIATA Polak. *Linnaea* 41: 570. 1877.

Psychotria Morae Polak. *Linnaea* 41: 570. 1877.

The types of both species, in the Berlin Herbarium, have been examined. *P. Morae* is merely a form of *P. quinquerradiata* with slightly wider leaves, and it is difficult to understand why it should have been published as a distinct species. The type material of *P. quinquerradiata* is from San José and Carpintera, Costa Rica; that of *P. Morae* from San José. The plant seems to be rare in this region at the present time, but it is one of the common shrubs of Guanacaste. The following collections agree well with the type of *P. quinquerradiata*:

COSTA RICA: El Silencio, Guanacaste, *Valerio* 124. Tilarán, Guanacaste, *Standley & Valerio* 44193, 44231, 44986, 45691. Las Cañas, *Valerio* 111. Quebrada Serena, Guanacaste, *Standley & Valerio* 46135, 46219. San Pedro, near San Ramón, *Tonduz* 17687. La Tejona, Guanacaste, *Standley & Valerio* 45904, 45833. Río Jesús, between San Ramón and San Mateo, *Brenes* 14531. Finca Las Cóncavas, *Standley* 41455. Los Ayotes, *Standley & Valerio* 45479.

PSYCHOTRIA SIGGERSIANA Standl. Journ. Washington Acad. Sci. 15: 289. 1925.

One additional specimen, probably the first ever collected, may be cited for this species:

COSTA RICA: San Miguel, May 12, 1857, *Wendland* 779.

Psychotria Wendlandiana Oerst., sp. nov.

Shrub 2.5-3 m. high, the branchlets stout, subterete, very densely short-villous with brownish pubescence, the internodes mostly 1-2 cm. long; stipules caducous, thin, oval, 5-6 mm. long, prominently bicostate dorsally, shortly bimucronate at the rounded apex, brownish-puberulent or short-villous; petioles slender, 1-2.5 cm. long, densely short-villous with spreading hairs; leaf blades ovate-oblong to oblong or oblanceolate-oblong, 9-15 cm. long, 3-5.5 cm. wide, gradually or usually abruptly acuminate or long-acuminate, narrowed toward the base but the base itself broad and varying from truncate to deeply cordate, thin, deep green above, glabrous, beneath slightly paler, densely short-villous along the costa, puberulent on the nerves, between them glabrous or nearly so, the costa slender, prominent, the lateral nerves very slender, about 14 on each side, ascending at a wide angle, arcuate, irregularly anastomosing close to the margin; inflorescence terminal, cymose-panicu-

late, the panicle about 5 cm. long and 4.5 cm. broad, borne on a peduncle 1.5–3 cm. long; panicle composed of about 3 remote whorls of short spreading branches, the branches densely brown-villous with short spreading hairs, the bracts short, ovate, bicuspidate, the flowers sessile in dense glomerules at the ends of the ultimate branches; calyx and hypanthium together 1 mm. long, short-villous, the limb 5-dentate, the lobes broadly triangular, obtuse or acutish; corolla yellow, 2.5–3 mm. long, puberulent outside, the tube cylindric-campanulate, the 5 lobes ovate, obtuse, spreading or recurved, the tube short-villous within the throat; anthers included, inserted at the middle of the tube; style slender, long-exserted.

Type in the herbarium of the Botanical Museum, Copenhagen, collected at San Miguel, Costa Rica, May 13, 1857, by H. Wendland (no. 781). Duplicate specimen of the same collection in the U. S. National Herbarium. To this species are referred the following collections:

COSTA RICA: Guápiles, Prov. Limón, alt. 300 m., *Standley* 37224. La Honda, Prov. San José, alt. 1,300 m., *Standley* 37773.

The two specimens collected by myself had been recognized as representing an undescribed species, but the material was too imperfect for description. The Wendland specimen in the Copenhagen Herbarium bears Oersted's manuscript name, and is accompanied by an exquisite pen and ink drawing showing the characters of the flowers. *Psychotria Wendlandiana* is a well-marked species, easily recognized by the unusual shape of the leaves, and especially by their cordate or truncate bases.

PALICOUREA SUBRUBRA Polak. *Linnaea* 41: 571. 1877.

This appears to be a valid species, of rather rare occurrence. The type in the Berlin Herbarium, from Cerro de la Carpintera, Costa Rica, *Polakowsky* 200A, is well matched by the following collections:

COSTA RICA: Finca La Cima, north of El Copey, *Standley* 42565. Fraijanes, *Standley & Torres* 47579.

PANAMA: El Boquete, *Maxon* 5002.

BOTANY.—*Shantzia*, a new genus of African shrubs related to *Gossypium*.¹ FREDERICK L. LEWTON, U. S. National Museum.

Several months ago in one of the greenhouses on the grounds of the Agricultural Department at Washington, there came into flower for the first time in the United States a malvaceous shrub having large showy blossoms resembling the flowers of tropical species of cotton. This shrub having been under the observation of the writer for several years and its identity having only recently been established, it is believed that an account of its introduction and identification is worth recording. The plant is one of five grown from seed collected near Kafue, Northern Rhodesia, by Dr. H. L. Shantz, then Agricultural Explorer for the Office of Foreign Seed and Plant Introduction, on December 6, 1919. These seeds were planted in pots in one of the quarantine greenhouses under control of the Federal Horticultural Board,

¹ Received November 23, 1927.